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AUTHOR Garstecki, Dean C.
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ABSTRACT

Reviewed are trends in early identification, amplification and education, parent education, legislation and mainstreaming of hearing impaired students. The interrelation of these five trends are analyzed in the case history of a successfully mainstreamed 9-year-old hearing impaired child. (CL)

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P17
Session 33

Council for Exceptional Children

Session 33: The Mainstreamed Hearing-Impaired Child

Program for DCCD
10:30-12:00 noon
Tuesday, April 12, 1977
Room 300
World Congress Center

Presented by:

Dean C. Garstecki, Ph.D.
Assistant Professor of Audiology
Department of Audiology and Speech Sciences
Purdue University
West Lafayette, Indiana 47907

Session Leader:

Sara E. Conlon
Acting Branch Chief
Bureau of Education for the Handicapped
Washington, D.C.

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This morning I would like to discuss several major efforts being directed toward meeting the needs of hearing impaired children. I became most cognizant of the problems of the school age hearing impaired while working in a large Midwestern school system about eight years ago. At that time, the hearing impaired child in the schools had essentially three special service options:

1. He was enrolled in a self-contained class for the hard of hearing and taught by a teacher of the hearing impaired.
2. He was seen by the school speech and language pathologist and taught by the regular classroom teacher.
3. He was tutored by a "more-often-than-not" uninformed, well-meaning classroom teacher without the services of a teacher of the hearing impaired or speech and language pathologist.

As a school speech pathologist, I provided the traditional litany of services under a variety of environmental constraints. It seemed like all children known to have medically non-reversible peripheral hearing impairment were enrolled in speechreading, auditory training, speech conservation and, sometimes, hearing aid orientation sessions. Needless to say, many of the children were receiving inappropriate, often token service. Many of their real needs went undetected and unresolved. Judging from my observations and conversations with my professional cohorts, this limited range of service was more or less reflective of the state of the art of audiologic rehabilitation in the schools at that time.

Within the last 8 years, advances in medicine, audiology, hearing aid technology, health care delivery systems, speech and language pathology, educational methodology, communication and related areas have served to potentially improve services for the hearing impaired. While actual delivery of services has improved, there remains the need for increased upgrading. Consider these figures. In 1976, the hearing impaired child was one of more than 8,000,000 handicapped school age children; 7,000,000 actually attended public schools; 4,000,000 did not receive needed service. Of the hearing impaired, chances were one in five that comprehensive services for those with moderate-to-severe hearing impairment were available within a particular school district. Chances were even less that the services of an audiologist were available within the school system. One child in eleven was integrated into a normal hearing classroom environment during his elementary school years.

Today, in order to provide the most effective and efficient services to the hearing impaired child, we can no longer ignore the total ramifications of hearing impairment. The impact of hearing impairment on any child's total daily functioning cannot be predicted from an audiogram or measured in absolute terms. Severe level pure tone averages provide very little prescriptive information. Even when considering onset of hearing loss and type of loss along with degree of hearing loss we have almost no indication of the child's ability to develop functional communication skills. Does he socially gravitate toward a normal hearing or deaf population? How well does he process what he perceives? Does he gain enough from linguistic and/or environmental context information to communicate effectively? Can he

learn effectively through the auditory channel with amplification? These questions and others must be answered when developing a meaningful program for the hearing impaired child.

Certain other ty pes of behaviors are easier to predict. Young children suffering occasional bouts with otitis media may have minimal difficulty functioning under typical classroom conditions when the primary signal is loud enough to be perceived. The child with a sudden severe unilateral loss resulting from viral infection may have accompanying localization, discrimination, tinnitus, recruitment or vestibular disturbance. He may derive little relief from medical treatment or the use of hearing aid. The child with a long standing bilateral sensorineural loss will have predictable discrimination difficulty and will often benefit from the use of a hearing aid. Probably the least predictable behavior is demonstrated by the child having normal peripheral hearing acuity and certain auditory processing or learning disabilities.

Hearing impairment, whether peripherally or centrally based, influences the child's everyday communication, self-confidence and self-concept. It has a major influence over his ability to academically achieve.

How are these problems being alleviated? There are several major trends to consider. First is the trend toward early identification, amplification and education. No child is too young to be tested. The human cochlea is functioning normally at the 20th week of gestation. In fact, I know one young mother who continually informs her unborn child of her actions. Although attempts at pre-natal hearing screening are largely experimental at this time, use of a high risk register

along with either Arousal Test or "Crib-O-gram" data will identify eight out of 10 children who should be classified in the "to be followed for possible hearing loss" population. Even if hearing appears to be normal at birth, regular evaluation is important since familial and acquired hearing impairment may develop at an uncertain period of time later.

In regard to early amplification, since it is well documented that the auditory channel is the route through which speech and language development normally takes place and that most hearing impaired children possess significant residual hearing capacity, it seems that every child with reduced hearing should be given a chance to benefit from acoustic input. No child should be denied the opportunity of at least trial hearing aid use. After some initial exploration, binaural amplification is usually recommended for children with bilateral hearing impairment.

Children who have the benefit of early evaluation and amplification have demonstrated the capacity to learn language in spite of a defective auditory system. The hearing impaired child requires an ACTIVE approach to learning language since the normal child has acquired most of the verbal skills and structures that serve to undergird his mature use of language and speech by the tender age of 3 ½ years.

The second major trend is that of parent education. Parents operate on a crisis psychology basis. They are first concerned about their own self-needs, then the needs of their child and finally the needs of other similarly handicapped children.

The goals of parent education are almost as varied as the number of parents in the program. Some parents will group together because they need to learn new ways to teach their child and help their child develop functional communication skills. Other parents want to learn how to foster their child's social and emotional development. Other parents may need the emotional support derived from the clinicians and parents of handicapped children in learning to accept and understand hearing loss and all of its ramifications; still others may need to gain information concerning where to seek answers or help with problems such as handling legal matters, educational options, disciplining their child, etc.

Parents need the general information provided in large group meetings. They need small group interaction with people who have similar needs. Finally parents need individual conferences for very specific and confidential matters.

The importance of parent education and guidance is highlighted in recent legislation, the third major trend we will consider. In 1974, P.L. 93-380 called for deinstitutionalization and normalization of educational service for hearing impaired children. In 1975, this law was expanded to become P.L. 94-142. This public law was designed to meet each handicapped child's unique educational needs without grouping by disability. Under this law, every handicapped child will be entitled to a free, appropriate public education with non-handicapped children in a "least restrictive environment". All handicapped children, mentally retarded, hard of hearing, deaf, speech and language impaired, visually handicapped, emotionally disturbed, orthopedically handicapped and learning disabled will require individualized

educational programs. Each program will have specified objectives, a statement of goals and procedures developed by educators, parents and children. To receive Federal funds, state educational agencies must guarantee service for the 3-18 year old group by 9/1/78 and for the 3-21 year old group by 9/1/80. Service for the 3-5 year old and 18-21 year old is not required when a state already provides services to these age groupings. The first priority will go to those currently not receiving an appropriate education. Second priority will go to those most severely involved who are receiving an inadequate education. Parents will have the right to an impartial due process hearing if they are not satisfied with their child's educational program.

Whether positive or negative, enactment of P.L. 94-142 will probably have the effect of:

1. creating an increased number of appropriate educational program options for all hearing impaired children; and,
2. shifting a portion of the severe to profoundly impaired population from special programs or schools to normal hearing classrooms during their mid-to-upper elementary years.

Educating the hearing impaired child in the normal hearing mainstream is the fourth major trend we will consider. Mainstreaming is the popularized catchword for the concept of integrated education. It is not a panacea. It is not appropriate for all hearing impaired children. It is not a simple procedure to initiate and maintain. It seems to me that it wasn't long ago that regular classroom teachers were crying

"get those kids out of my class". Well they did leave for a time and now are returning. Hopefully competent planning, management and evaluation will work toward successful integration.

The range of critical predictors of a child's success in a mainstreamed environment includes the child's internal motivation, personality, cognitive and communicative skills, academic skills, degree of support from the home, creativity and competence in the teaching staff, and attitude of the school population. Language skills appear to be a more important determining factor than hearing loss. In all, the 1970's will be remembered as the decade that established for the hearing handicapped the "right to education", "due process", "least restrictive environment" and a national goal to provide comprehensive services. Federal court cases, new mandatory legislation, demands for accountability, and increased funding have had enormous influence on the continuium of programs and services available. State laws and regulations are being revised to enable school districts to implement the most appropriate program and personnel utilization-designs possible to meet the needs of exceptional children.

As you've seen, the trends in early identification, amplification and education, parent education, legislation and mainstreaming are interrelated. Collectively they begin to establish a basis for managing the problems of the school age hearing impaired child.

Finally there is the trend toward increasing audiologic service in the school environment. A move in this direction is, without a doubt, an advantage to the mainstreamed hearing impaired child. To this

time, the hard of hearing child, especially the child who was not a candidate for special class or special school placement, has not received the quality of service necessary to meet all of his specialized needs.

When performance data is considered, the child with educationally significant hearing impairment may demonstrate voice and articulation deviations, delayed auditory language development, emotional maladjustment, low verbal IQ scores, low educational achievement, auditory processing deficits, retarded reading skills and social non-acceptance by normal hearing peers.

It has also been demonstrated that there is approximately a 50% chance that a hearing impaired child's hearing aid will be operating properly on any given day. It is also unlikely that the acoustic conditions of his classroom will permit optimal hearing aid use. Several studies also demonstrate that hearing impaired children have not always been successfully integrated into normal hearing classroom environments.

This is just a sampling of the problems and needs of this population. How will these needs be met? Who will begin to manage the multitude of services that must be provided? The audiologist appears to be a logical choice at this time. By definition and training the audiologist is best prepared to evaluate, remedy and monitor breakdowns in the cyclical relationship between a properly functioning hearing aid, classroom acoustics and auditory language processing. He knows how to optimize reception of auditory information under typical classroom conditions.

In order to see how these five major trends might operate in the mainstreaming of a hearing impaired child, let's focus on the case of Lisa.

Lisa is the nine year old hearing impaired daughter of a college professor and his graduate student wife. She is the eldest of three siblings, one of whom has a similar hearing loss. At ten months of age, Lisa was regarded as a model child. In actual fact, she was "too good". Hearing impairment was suspected and confirmed after frustrating visits with pediatricians, audiologists and librarians. Confirmation of her loss was completed by cross-country assessment and followed by successful hearing aid fitting. At the present time, Lisa's hearing impairment can be described as a severe to profound, bilateral sensorineural loss of undetermined origin. With high gain post-auricular hearing aids worn binaurally, her speech reception threshold is at the moderate loss level.

Lisa's communication skills are "typical" of a child demonstrating hearing impairment of her degree and type. Her speech is generally intelligible although she uses exaggerated mouth movements in production. Consonantal word endings and high frequency consonant sounds are usually distorted or omitted. Her voice quality is high pitched, hypernasal and lacking inflection. Although she absorbs new topics quickly, she has difficulty grasping abstract concepts. Her overall language usage is on a par with her age peers.

Lisa's home environment can be described as a place where there is considerable activity and verbal exchange. The father provides the only income and delegates child management concerns to the mother.

Mother is an anxious, sometimes panic stricken, frustrated and bitter woman. The best interests of her family are visibly her primary concern.

Lisa was mainstreamed in kindergarten. She has never been segregated from normal hearing children by special class or school placements. Lisa is presently in the fourth grade functioning at grade level in reading and math. She has some difficulty drawing inferences from stories she hears. She is not always able to detect key words from a speaker's intonation and stress cues. This results in difficulty understanding thought relationships in a sequence of sentences. This problem further complicates her success in drawing conclusions and summarizing from combined facts, abstractions, and inferences.

This problem also pervades other subject areas. She may understand a math concept and use it appropriately, but miss the intent of word problems. In science, she has difficulty classifying objects by physical properties. Her performance is all academic areas is, of course, influenced by her innate ability and experiential background. She manages to maintain a C+/B- overall average.

In a very short time, she has become known as an interesting student with many capabilities and skills. Her extracurricular activities include participation in a gymnastics class and the Girl Scouts. She plays the accordian and violin. She also speaks Hebrew and French. In all these activities, she has learned to compensate for reduced auditory input. She requires special instructions, clarification of idomatic language usage, and written or live presentation of recorded materials.

Lisa's teachers describe her as enthusiastic, self-confident and motivated by challenge. She is generally aggressive which results in healthy academic competition but also tends to make her socially manipulative. Lisa demonstrates some inattention which could be attributed to the interacting effect of hearing loss and personality. Because of her inattention, she often misses directions. She also misses the language models provided by others. Because she doesn't listen to others, she misses many incidental conversations.

She resolves her communication difficulty by watching others and by reacting to their cues. She watches them instead of listening to them.

In spite of these problem areas, Lisa appears to be successfully mainstreamed. Factors which appear to have contributed to her success can be summarized as follows. First of all, Lisa had the benefit of early binaural amplification and early language intervention. Her mother must be given full credit for seeking early detection and providing language learning experiences. At present there is minimal disparity between her language, social and developmental age levels. She is reading at grade level with her academic skills on a par with others in her class. Lisa is independent and outgoing. She receives appropriate communication skill building through a consistent audiologic rehabilitation program in school and at the Purdue University Speech and Hearing Clinic.

Her classroom teacher is receptive to the needs of children requiring a specialized approach to learning. She makes appropriate use of team teaching techniques, teacher aides, individualized and self-paced

learning activities and visual media. Her classroom provides an opportunity for natural language development through meaningful experiences.

Finally, Lisa's parents are a primary motivating force. They accept their child's disability but set few limits to her educational and personal experiences. They have a strong desire to have her educated under an auditory-oral approach in a mainstreamed environment. They religiously provide additional tutoring as may be indicated. The parents work in tandem with classroom teachers and supportive personnel in the school. They also avail themselves of parent education opportunities.

Lisa's overall success might be attributed to an ideal combination of personal, family and school conditions. Although she is only one example, her case study demonstrates that a child having many of the common problems of school age hearing impaired children can benefit from educational placement in the mainstreamed environment. It also demonstrates that successful mainstreaming will not be easy. It may require a considerable amount of effort by the child, family and school.